

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A processor comprising:
 - a clock signal generator generating clock signals;
 - an operational processing part performing data processing which is divided into a plurality of execution units, in accordance with the clock signals;
 - a storage storing data per each execution unit, the ~~used when each~~ execution unit ~~[[is]]~~ being executed by the operational processing part as a unit;
 - a data amount detector detecting amounts of the data stored in the storage per each execution unit;
 - a clock frequency determining part determining a new clock frequency of the clock signals by using the amounts of the data, said clock signals being supplied newly to the operational processing part; and
 - an execution priority storage storing preliminary priorities which indicate the execution order of the execution units,
 - wherein the clock frequency determining part selects one or more of the execution units in order of the lower priority, and determines the new clock frequency of the clock signals by using the amounts of the data associated with the execution units selected by the clock frequency determining part.

2. (Original) A processor according to claim 1, wherein the execution units include a predetermined execution unit,

wherein the data amount detector detects per each predetermined execution unit.

3. (Original) A processor according to claim 1 further comprising:
an input port receiving the data to be processed by the operational processing part,

wherein the data amount detector detects amount of the data received by the input port.

4. (Original) A processor according to claim 1 further comprising:
an output port outputting the data obtained by performing the data processing,
wherein the data amount detector detects amount of the data output by the output port.

5. (Canceled)

6. (Original) A processor according to claim 1, wherein the clock frequency determining part includes a table which indicates the relation between the amounts of the data detected by the data amount detector and the variation of the clock frequency, and determines the new clock frequency of the clock signals by referring to the table.

7. (Canceled)

8. (Currently Amended) A processor, ~~according to claim 7 further~~ comprising:

a clock signal generator generating clock signals;

an operational processing part performing data processing which is divided into a plurality of execution units, in accordance with the clock signals;

a storage storing data per each execution unit, the execution unit being executed by the operational processing part as a unit;

a data amount detector detecting amounts of the data stored in the storage per each execution unit;

a clock frequency determining part determining a new clock frequency of the clock signals by using the amounts of the data, said clock signals being supplied newly to the operational processing part,

the clock frequency determining part including a table indicating the relation between the amounts of the data detected by the data amount detector and the variation of the clock frequency, a clock frequency holder holding a practical current clock frequency supplied to the operational processing part, and an adder adding to the current clock frequency the variation obtained from the table, the clock frequency determining part determining newly the output value of the adder as the clock frequency of the clock signals;

an execution status detector detecting whether a certain execution unit becomes the predetermined state or not;

a timer newly starting the clocking when the execution status detector detects that the execution unit has become the predetermined state; and

a clock frequency changing part changing the clock frequency, the clock frequency changing part decreasing the absolute value of the variation according to the value of the timer[[]],

wherein the adder adds to the current clock frequency the variation which is changed by the clock frequency changing part.

9. (Original) A processor according to claim 1, wherein the storage includes a plurality of storage regions, each of which stores the data for each execution unit,

wherein the data amount detector detects the amounts of the data stored in each storage region,

wherein the clock frequency detecting part obtains a plurality of clock frequencies on the basis of the amounts of the data associated with each execution unit, and determines the highest clock frequency among said plurality of clock frequencies as the new clock frequency to be supplied newly to the operational processing part.

10. (Original) A processor according to claim 9 further comprising:

an input port receiving a data to be processed by the operational processing part,

wherein the clock frequency detecting part determines the new clock frequency on the basis of the amount of the data in the nearest storage region to the input port among said plurality of storage regions.

11. (Original) A processor according to claim 9 further comprising:

an output port outputting a data after being processed by the operational processing part,

wherein the clock frequency detecting part determines the new clock frequency on the basis of the amount of the data in the nearest storage region to the output port among said plurality of storage regions.

12. (Original) A processor according to claim 1, wherein the clock frequency detecting part includes a source voltage controller supplying a source voltage to the operational processing part, in accordance with the new clock frequency.

13. (Canceled)

14. (Currently Amended) A clock frequency determining method determining a clock frequency supplied to a processor, which comprises: an operational processing part processing data in accordance with clock signals; and a storage storing the data per each execution unit, the used when each execution unit [[is]] being executed by the operational processing part as a unit and storing preliminary priorities which indicate the execution order of the execution units; and a clock frequency determining part determining a clock frequency,

the method comprising:

detecting amounts of data associated with the respective execution units, said data being stored in the storage;

selecting one or more of the execution units in order of the lower priority;

determining a new clock frequency to be supplied to the operational processing part on the basis of the result of the detection by using the amounts of the data associated with the execution units selected;

generating clock signals supplied to the operational processing part in accordance with a new clock frequency.

15. (Canceled)

16. (New) A clock frequency determining method determining a clock frequency supplied to a processor, which comprises: an operational processing part processing data in accordance with clock signals; a storage storing the data per an execution unit, the execution unit being executed by the operational processing part as a unit; a data-amount detector detecting amounts of the data stored in the storage per each execution unit; a clock frequency determining part determining the clock frequency and having a table indicating the relation between the amounts of the data detected by the data amount detector and the variation of the clock frequency; an execution status detector detecting a status of a certain execution unit; a timer timing the detection of the execution status detector; a clock frequency changing part changing the variation of the clock frequency,

the method comprising:

detecting amounts of data associated with the respective execution units, said data being stored in the storage;

detecting whether a certain execution unit becomes a predetermined state or not, by using the execution status detector;

starting the timing when the execution status detector detects that the execution unit has become the predetermined state by using the timer;

changing the clock frequency, so that the absolute value of the variation is decreased according to the value of the timer by using the clock frequency changing part;

adding the variation of the clock frequency to the current clock frequency, the variation of the clock frequency being obtained from the table and being changed by the clock frequency changing part;

determining a result of the addition as a new clock frequency to be supplied to the operational processing part; and

generating clock signals supplied to the operational processing part in accordance with the new clock frequency.